

EOSDIS IV&V
Monthly Status Report
For the Period 1/1/98 to 1/31/98
(Deliverable0201)

February 17, 1998

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1. PERFORMANCE INFORMATION

1.1 Contract Organization Chart

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. The approximate number of personnel assigned to each technical task during January is also indicated.

1.2 Programmatic Information

a) Key Recent Accomplishments

- Submitted monthly 533 and Status Reports.
- Ensured on-time delivery of contract deliverables as indicated in Exhibit 1-2.
- Individual training on various technical subjects was completed at the GSFC Learning Center and through Computer Based Training (CBT) classes which were provided by Intermetrics.
- Completed draft of Work Element 5, ECS Component Test Support for AMP modification.

b) Planned Activities

- Continue individual training on various technical subjects at the GSFC Learning Center and through internal Intermetrics CBT classes.
- Continue tracking progress against the Master Milestone Chart as illustrated in Exhibit 1-3.

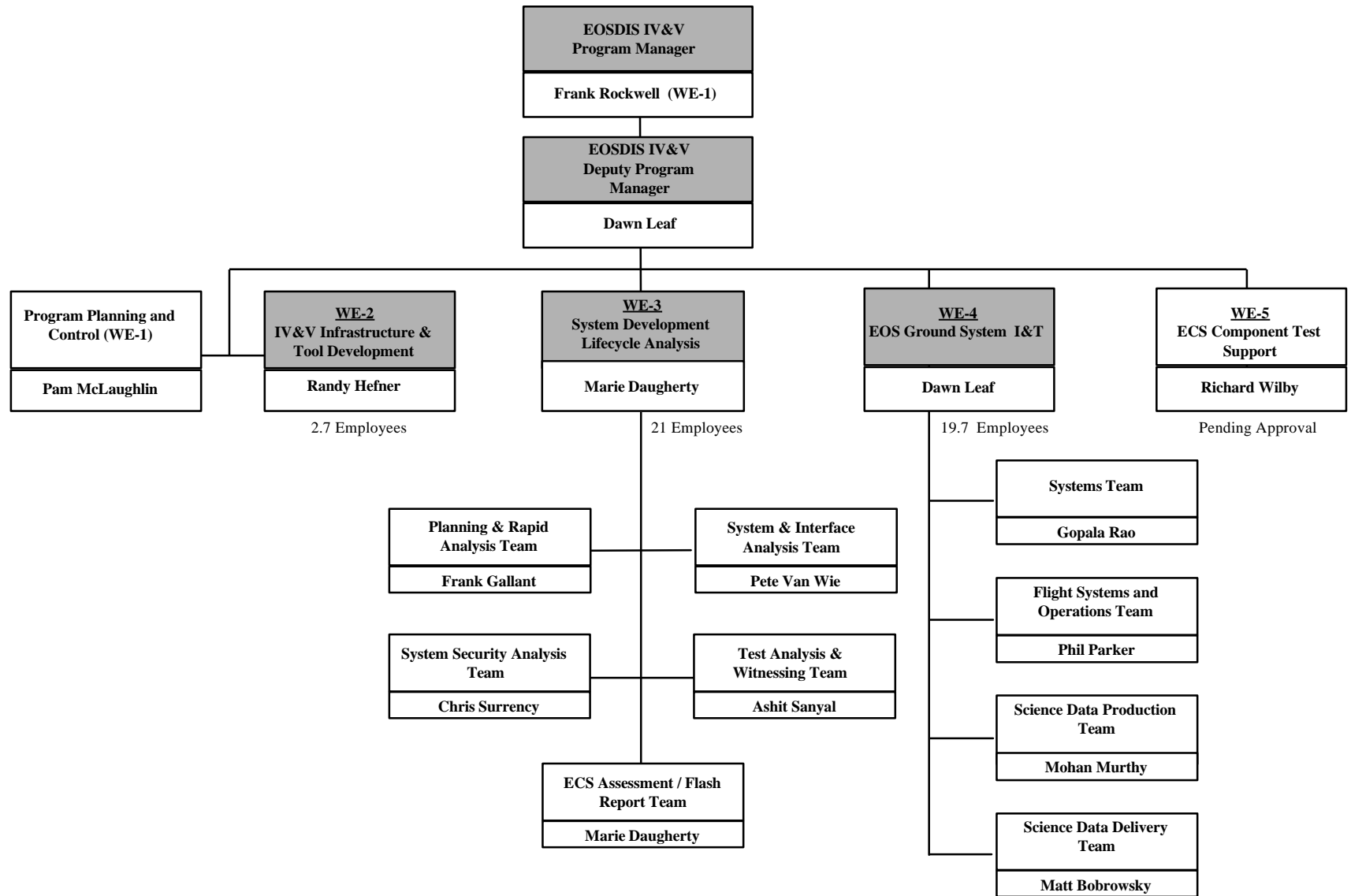


EXHIBIT 1-1: EOSDIS IV&V Organization

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Expected Date Due	Dependency	Milestone/ Deliverable	Task #	Status*	Comments
1/15/98	15 th of month	NASA Financial Mgmt Report 533M	WE-1	C	1/15/98
1/15/98	15 th of month	NASA Monthly Status Report	WE-1	C	1/15/98
1/98	RTM + 10 working days	Integrated Requirements Database (IRDB) Reports	WE-2	D	
1/98	Periodic	TMDB Version 5.1 Released and Deployed	WE-2	C	1/28/98
1/5/98	Monthly	December ECS Flash Report (0820)	WE-3	C	1/5/98
1/9/98	Periodic	Analysis of SV/AT test procedures for Drop 2&3 for ECD	WE-3	C	1/8/98
1/12/98	RTM + 10 working days	12/24 ECS RTM quantitative TAM (0811)	WE-3	C	1/12/98
1/16/98	Periodic	FOS Document Review TAM	WE-3	C	1/16/98
1/16/98	Periodic	ECS CM Practices Review	WE-3	C	1/16/98
1/26/98	Periodic	ECS RTM Qualitative TAM	WE-3	C	1/26/98
1/98	Periodic	EGS I&T Program Test Package Updates (1112C)	WE-4	C	1/5/98
1/98	Periodic	EGS Test Summaries (via E-Mail -1120)	WE-4	C	1/5/98
1/98	Periodic	EGS I&T Program Test Matrix (1114B)	WE-4	C	1/15/98
		February 1998			
2/16/98	15 th of month	NASA Financial Mgmt Report 533M	WE-1	IP	
2/16/98	15 th of month	NASA Monthly Status Report	WE-1	IP	
2/98	RTM + 10 working days	Integrated Requirements Database (IRDB) Reports	WE-2	O	
2/2/98	Monthly	January ECS Flash Report	WE-3	CX	
2/3/98	On Site Test +10 working days	Network Vulnerability Assessment of the TRMM Mission Operations Center	WE-3	C	2/3/98 **
2/10/98	On Site Test +10 working days	Network Vulnerability Assessment of the Landsat-7 Mission Operations Center	WE-3	C	2/10/98 **
2/12/98	On Site Test +10 working days	Network Vulnerability Assessment of the SOHO Mission Operations Center	WE-3	C	2/12/98 **
2/2/98	Periodic	EGS Test Summaries (via E-Mail -1120)	WE-4	C	1/30/98
2/98	Periodic	Pre-Certification Test Activity Matrix EGS, ICT, EDOS Test Schedule Information Summarized (1114B)	WE-4	C	2/10/98
2/27/98	Periodic	EGS Test Summaries (via E-Mail -1120)	WE-4	IP	

* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

** Per project direction, these reports were provided directly to the ITSO (Gordon Noble) and to the appropriate Mission Operations Manager only

EXHIBIT 1-2: Status of Milestones/Deliverables

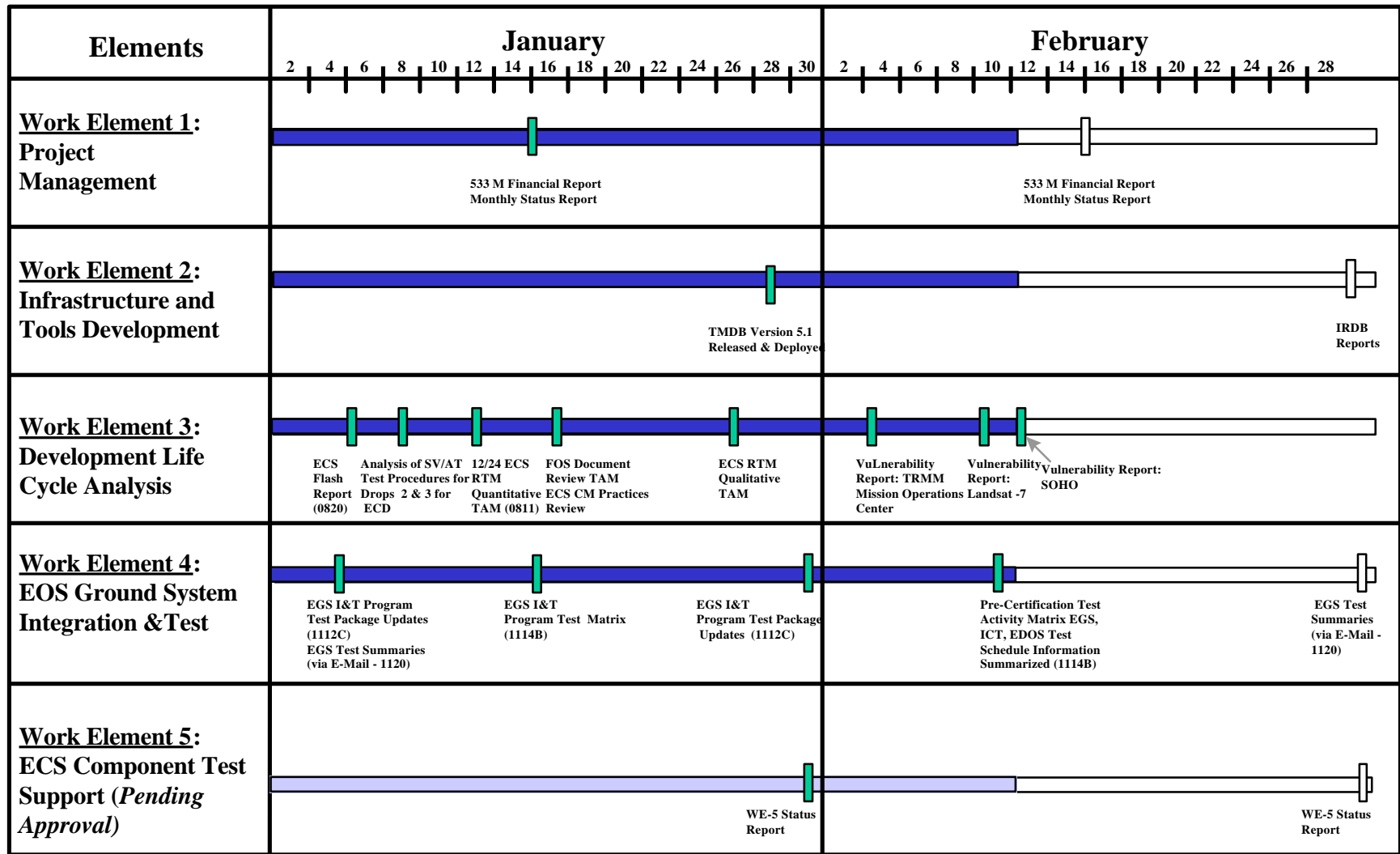


EXHIBIT 1-3: Master Milestone Chart

1.3 Technical Task Information

Work Element #2 Infrastructure and Tool Development

a) Task Accomplishments:

- Released and deployed Test Management Database (TMDB) version 5.1 including database schema and metrics reporting enhancements. This release coupled with planned updates to the TMDB data import utilities will serve as the baseline in support of upcoming EGS I&T formal test activities.
- Determined that it is not feasible for the 16 bit TMDB client to interface to the newer 32 bit versions of Microsoft Access. Until a 32 bit TMDB client can be produced, the 16 bit Microsoft Access (version 2.0) must be maintained on the Test Buddy laptops.
- Prepared and posted another set of Confidence Test Package document updates to web page, updated the indexes, and deleted old versions.
- Worked with Element 3 personnel to correct discrepancies in the requirement metrics. The root cause of the problem was found to be Level 3 requirements with no paragraph_id assignment. Corrected the Integrated Requirements Database (IRDB) accordingly.
- Updated metrics graphics on Project Issue Tracking System (PITS) browser web pages. Modified frames on opening PITS browser pages.
- Updated the contacts list on both the EOSDIS IV&V and EGS I&T homepages. Also, added the provided organization chart to the EGS I&T homepage.
- Modified the IRDB applet interface screens to be slightly smaller so that GSFC Mac browsers would include all the pertinent data (per Mark Simons request). Also, added a TRACE button as another mechanism (in addition to double clicking) to view traces for a selected requirement.
- Discussed short term tooling needs with other element leads. No new tooling needs were identified, however, interest in the incorporation of pending change requests was reiterated (e.g. Project Issue Tracking System status reporting change request).
- Continued Operations and Maintenance (O&M) activities for the Project Issue Tracking System (PITS), Automated Requirements Database (ARDB), Test Management Database (TMDB) and established homepages (EOSDIS IV&V, EGS I&T, and PITS Browser).
- Performed general system administration activities such as backups, COTS maintenance, and hardware maintenance as required.
 - * Installed FTP Services onto the NetWare server.
 - * Resolved problem with Xoftware where background windows were inaccessible (McCabe tool support).
 - * Made the Fairmont EOSDIS Element 3 mailing list available from the corporate LDAP server.
 - * Installed INGEST code from the most recent ECS code drop (1/8).

b) Issues/Concerns:

None

c) Subcontractor Performance:

- EWA performance during this reporting period was good. Areas of performance include:
 - * Maintenance and operations of the Test Management Database (TMDB).
 - * Database maintenance and reporting.

d) Planned Activities:

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- Start to update the Integrated Support Environment Users Guide in preparation for delivery in early March (deliverable 0424 due on 3/11).
- Initiate design and implementation of the PITS issue chronology status reporting change request. Per the change request, an issue chronology status indicator would be added to reflect either progress towards resolution (green), no change/nominal progress (yellow), or increasing risk (red).
- Initiate migration activities for existing client/server tools from 16 bit applications (old Windows 3.1 architecture) to 32 bit applications (new Windows95 and Windows NT architecture). Migration from 16 bit SQLWindows application to a 32 bit Centura application is supported by the Centura Team Developer 4th Generation Language (4GL) development environment. An attempt to migrate the TDMB to a 32 bit application will be attempted first since it includes functionality that interfaces to Microsoft Access. Creation of a 32 bit TMDb application would be beneficial from a maintenance perspective since all new versions of Microsoft Access are 32 bit applications (under Windows95 and Windows NT).
- Update the EOSDIS IV&V library catalog homepage maintenance scripts to reflect the current IV&V team organizational structure.
- Tailor a version of the PITS for use by the Element 2 team in tracking bug, support, and change requests. PITS will be used to support the change management process.
- Install new RTM baselines as they are received. Produce related reports. Transfer data to ISE Sybase databases as required. Incorporate associated updates to the IRDB homepage. The anticipated January ECS RTM release has been postponed and is now scheduled for sometime in March.
- Continue to support database reporting and data transfer requests.
- Continue O&M for all developed client/server, database, and homepage infrastructure items.
- Perform system administration duties for both LANs, hardware and COTS software as required.

Work Element #3 Life Cycle Development and Analysis/System Engineering Support

a) Task Accomplishments:

Planning & Rapid Analysis Team

- Delivered the quantitative analysis of the 12/24 ECS RTM baseline TAM.
- In the process of updating the mapping between a set of EOSDIS Core System at-launch capabilities (defined by Raytheon) and the ECS Requirements by Release.
- The CM analysis TAM was delivered 1/16. It provided results of our analysis of five of the ECS subsystems and recommendations for improvements to the CM process. Analysis of the other ECS subsystems is continuing.
- Delivered the Flight Operations Segment software maintenance documentation review results TAM.

System & Interfaces Analysis Team

- The qualitative analysis of the 12/24 ECS RTM baseline was delivered on 1/26.
- Provided impact analysis comments on 5 CCRs to interface documents (see attached table). Continuing to track open interface issues and support the Interface Control Working Group (ICWG).

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CCR Review Status

CCR #	Title	Date Rcvd	Cmts Due	CCB Date	Delivery Date	IV&V Lead
505-42-01-016	Update the Landsat 7 System Zero-R Distribution Product DFCB	12/29/97	1/21/98	2/10/98	1/20/98	Donohue
505-42-01-017	Update the Landsat 7 System CPF Definition Document	12/29/97	1/21/98	2/10/98	1/20/98	Donohue
505-41-47-004	Add SCF Interface to SAGE III ICD	1/6/98	1/22/98	2/10/98	1/14/98	Imhoff
505-01-35-078	Update EDOS TGT ICD	1/15/98	2/5/98	2/10/98		Jenkins
505-01-41-168	Enhance Command Execution Verification (F&PRS)	1/15/98	2/5/98	2/12/98	1/22/98	Imhoff
505-10-35-004	Update the AM1 PDB DFCB to Include ERSDAC comments	1/15/98	2/5/98	2/10/98	1/22/98	Imhoff
505-41-32-008	Update the Landsat 7 IGS ICD	1/20/98	2/10/98	2/10/98		Donohue
505-41-37-004	Update the ECS-SDVF ICD	1/22/98	2/11/98	2/17/98		Imhoff
505-01-41-169	Level 2, 3 updates for ancillary data (NCEP, TOMS, Non EOS)	1/27/98	2/18/98	3/10/98		Solomon

System Security Analysis Team

- A debriefing was held by members of Hughes/Raytheon STX on the Network Security Assessment Team (NSAT) Network Vulnerability Assessment of their primary V0 servers. This debriefing included a very comprehensive look at how the information from the NSAT scan was used, the benefits of the scan, and some recommended improvements for future operations. The following benefits were noted by the Raytheon administrators:
 - * Detection of security problems which would otherwise be difficult for systems administrators to detect.
 - * The scan was able to find unnecessary services running on the system.
 - * The scan was able to find holes which had been previously fixed and re-opened.
- The NSAT completed the Mission Operations TRMM assessment and delivered the associated report.
- The NSAT is continuing preparations for the upcoming assessment of AM-1.

Test Analysis and Witnessing Team

- Several IV&V team members have joined the ESDIS Test Witnessing Team. The Team members will review and comment on Test Procedures, witness tests at the Goddard DAAC and at the Raytheon (Landover) Verification and Acceptance Test Center (VATC), review test folder contents, attend NCR meetings, coordinate team activities and report findings. The goal is to identify any holes in the test coverage and areas where the system does not meet the test criteria. We will also attempt to identify the specific ECS requirements which have passed or failed during testing.

ECS Assessment/Flash Report Team

- The January Flash Report was not produced per direction from ESDIS. IV&V, ESDIS and ECS will review and discuss the contents and format of this report for next month's deliverable.

b) Issues/Concerns:

- ECS Testing activities continue to experience schedule problems due to development slippage. They are still having problems installing the second patch to Drop 3.

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c) Subcontractor Performance:

- Orbital is leading the System and Interfaces Analysis Team. Their technical staff also supports other integrated analysis teams within Work Element 3. Their performance has been very good.
- SES is leading the Test Analysis and Witnessing Team. Their technical staff also supports other integrated analysis teams within Work Element 3. Their performance has been very good.

d) Planned Activities:

Planning & Rapid Analysis Team

- Continue to work McCabe metrics approach with ECS.
- Continue CM analysis on other ECS subsystems.
- Finalize update to the mapping between a set of EOSDIS Core System at-launch capabilities and the ECS Requirements by Release.

System & Interface Analysis Team

- Continue CCR reviews and ICWG support.

System Security Analysis Team

- The NSAT will continue coordination efforts with the respective DAACS for the implementation of SAFEsuite testing for AM-1. These Network Assessments should start in late February or early March.

Test Analysis and Witnessing Team

- Continue to support the Test Teams activities.

ECS Assessment/Flash Report Team

- Meet with ECS and ESDIS to review the Flash Report contents and format.
- Continue to review information from across the IV&V efforts for inclusion in the February report.

Work Element #4 EOS Ground System Integration and Test

a) Task Accomplishments:

EGS Version 2 Test Planning:

- TRMM
 - * No activity this period.
- ASTER
 - * Continued key role in ASTER test planning, preparation, and coordination with the EDC DAAC and Japan GDS developer.
 - * Continued Flight Ops (IST) and Science system test development (EGS 6 Instrument Ops test, ICT 14 EOS-ASTER GDS Interface test, EGS 9 Aster Science Ops test, ICT 11 EDOS -ASTER GDS test).
- AM-1 Joint Test Program
 - * Working FSTT test series and pre-flight test team/AM-1 test coordination:

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- technical meeting support
 - drafting test plans and procedures
- * Working EGS 3/MOSS -2- Joint Mission Operations Science System & EGS AM-1 Daily Operations Confidence Test (Entire EGS Flight Operations & Science Certification):
 - technical meeting support
 - drafting test plans and procedures
 - DAAC liaison
- Joint DAAC-EGS I&T Science System and Operation Certification Program
 - * Completed Operations Working Group Joint DAAC-EGS test action items.
 - * Continued planning and coordination with GSFC, LaRC, EDC, and NSIDC DAACs on EGS Science System & Operations Certification, per EGS Science & Ops Certification Process Document .
 - * Revised mission “3 days-in-the life” timeline charts and then cross-reference chart to EGS tests and DAAC operations procedures and tests.
 - * Completed first drafts of DAAC specific EGS 11 EGS Performance certification tests.
 - * Working first drafts of DAAC specific EGS 10 EGS End-to-end Science Operations certification tests.
 - * Revised EGS Pre-Certification Test Activity Matrix (1114B periodic)for each DAAC.
- Participated in the following meetings:
 - * OWG Meetings & Telecons
 - * ESDIS Ops Readiness Replanning
 - * Flight Ops Test Planning Team
 - * EDOS TOG
 - * DAAC Working Meetings
 - * LaRC, EDC, GSFC on-site DAAC/EGS Test Planning Meetings
- Met target date (1/5) to deliver updated EGS I&T confidence test packages.
 - * 1112C (periodic), including DAAC comment incorporation.
- Under ESDIS direction, coordinated the following with instrument teams:
 - * MODIS through GSFC and EDC DAACs.
 - * MISR, MOPITT, CERES through LaRC DAAC.
 - * ASTER
- Landsat 7 -- MRTT coordination.

Integration Schedule Tracking and Analysis:

- Reviewed/revised EGS I&T EGS/ICT schedule to support DAAC ORES and delayed ECS SDP availability in DAACs.
- Monitored/revised FOS V2 test schedule to reflect delayed ECS FOS V2 availability.
- Rescheduled/coordinated ECS-EDOS Interface test (ICT 3) with GSFC DAAC, ECS and EDOS.

Integration Test Tool Definition and Plans:

- Initiated action item to review/revise Test Management Data base (TMDB) in preparation for formal EGS Science System & Operations Certification.

EGS Versions 1 and 2 Integration and Test Execution:

- Continued preliminary tests of FOS Release B with version 2.0.1.

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- * This version has limited capabilities with many open NCRs.
- * More formal and intensive testing will begin with FOS 2.1.0 in December.
- * Provided email (1120 periodic) summaries per program management plan.
- Participated in DAAC-EGS Operations Readiness Exercises (OREs)
 - * Supported EDC DAAC ORE AT/SVs on-site at EDC.
 - * Supported GSFC DAAC ORE AT/SVs on-site at GSFC.
- Supported TSS, LaTIS, TSDIS, FOS DRB, ETS DRB, EDOS in closing DRs.

b) Issues/Concerns:

- Continued ECS installation slips on overall ORE test planning.
- Schedule Issue -- Mission (MOSS-2/EGS 3) joint flight ops & science system certification date is 5/98.
 - * Based on current schedule the Science System & Ops Certification test (EGS10), which is a prerequisite for MOSS-2, is not scheduled until June based on ECS SDP drop 4 availability. MOSS-2 will need to be executed test twice unless the EGS 10 dry-run end-to-end is successful, or alternatively, the science system certified in MOSS-2 will not be the same one used for launch. (S. Lambros is aware and working.)

c) Subcontractor Performance:

- Excellent.

d) Planned Activities:

- Continue to lead EGS Science & Ops Certification Test Planning.
- Continue to participate in ORE testing with DAACs.
- Deliver 1112C EGS I&T Program Test Package Updates.
- Deliver 1114B EGS I&T Program Matrix Updates.
- Deliver 1120 EGS Test Summaries Updates (via E-Mail).
- Continue L-7, AM-1 joint test planning .
- Complete ongoing task support activities.

Work Element #5 ECS Component Test Support

a) Task Accomplishments:

- Received approval to create Work Element 5, ECS Component Test Support, at meeting on 1/9 with the System Integration Manager. New WE5 manager started on 1/12.
- Met with ECS management to establish staffing assignments and on-site schedule for WE5 personnel.
- Submitted amendment to the Annual Program Management Plan to formally establish this new Work Element.
- Established regular schedule for weekly status meetings with NASA Integration and Acceptance Test Manager.
- Participated actively in testing which included HP Openview tests and sub-system NCR verification. This also involved meeting with the development staff and other testers to confirm suspected anomalies and writing NCRs as required. Updated test procedure documents when needed.
- Completed facilities setup (e.g., offices, telephones, eMail accounts, UNIX logins, etc.) at the Raytheon facility in Landover for all WE-5 staff members.
- Participated in daily, 9:00 AM status/coordination meetings.

b) Issues/Concerns:

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- Continuing to wait for approval of the Revised Annual Management Plan to incorporate Work Element 5. In the meantime, charges for Element 5 are being collected under Work Element 1. Assistance is needed to expedite the Revised Annual Management Plan.
- Due to extensive DAAC installation support at both the EDC and GSFC facilities, the availability of ECS staff members for training new WE5 team was significantly reduced. Element 5 staff time was spent reviewing documentation in lieu of hands-on training.

c) Subcontractor Performance:

- Orbital and SES performance during this reporting period was good. Areas of performance include:
 - * Reviewed ECS subsystem documentation and worked with ECS staff to facilitate training activities.
 - * Supported test status meetings.
 - * Provided status reports to IV&V management.

d) Planned Activities:

- Complete training activities for the new Element 5 staff.
- Continue to actively participate in all appropriate ECS test related meetings, including the daily test status meeting.
- Work with the ECS test management to establish formal testing assignments for newer members of the WE5 staff. It has been recommended that a greater responsibility for subsystem NCR validation be established to reinforce the other training activities (e.g., provide hands-on keyboard tasks).

2. FINANCIAL/CONTRACTUAL INFORMATION

2.1 Average Direct Labor Rates

(SUPPRESSED)

2.2 Staffing Profile

Exhibit 2-2 gives a summary view of the number of full-time equivalent employees on the EOSDIS IV&V contract. It provides the staffing profile by task for the previous month, current month, and next month (projected).

In terms of full-time equivalent staff members, the contract supported about 53 personnel in the month of January.

Those employees currently supporting Work Element 5 are included under Work Element 1 until receipt of the Annual Management Plan.

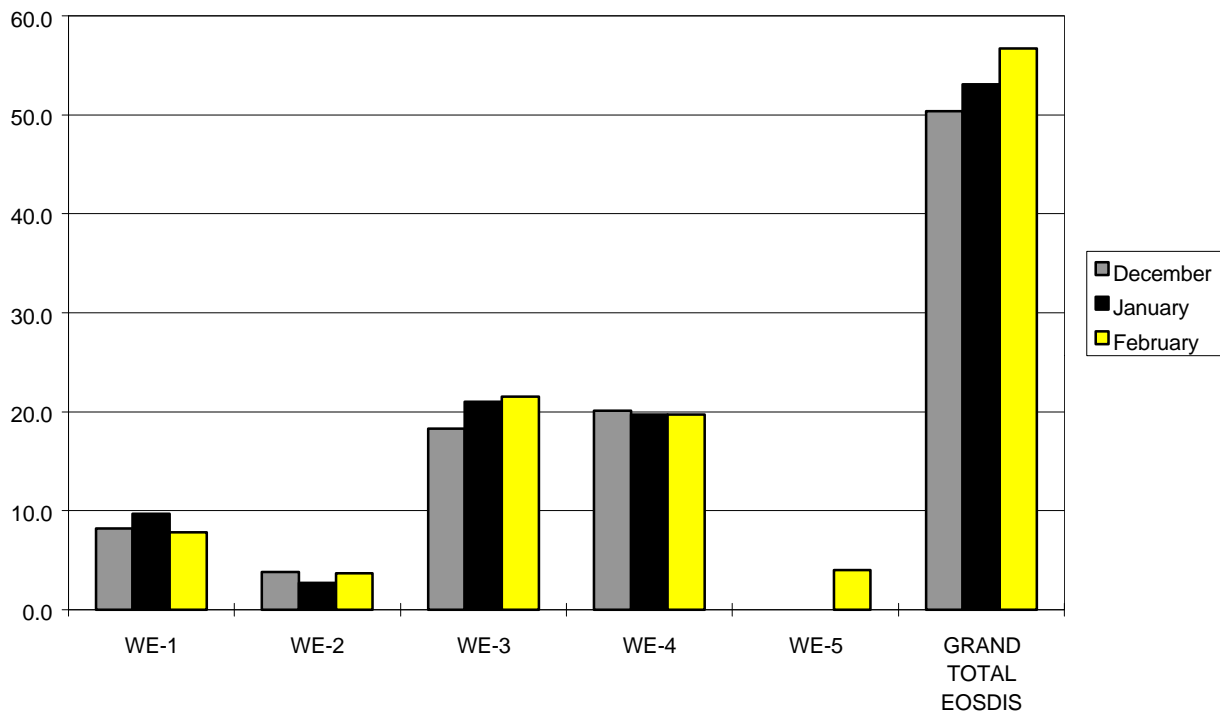


EXHIBIT 2-2: Summary Staffing Profile by Work Element and Total

2.3 Financial/Contractual Related Issues

- Intermetrics is awaiting the DD1419 for laptop computers required to support DAAC ORE testing.
- Intermetrics is waiting for the contract modification which will update the Annual Management Plan to include the new Work Element 5.
- Replacement COTR not yet identified.